

IN THE CLAIMS

Please amend the claims as follows:

1-10. (cancelled)

Claim 11 (Currently Amended): A continuously operated process for ~~[[the]]~~ purification of a crude oxirane by ~~distilling~~ ~~distillation of~~ ~~[[an]]~~ the crude oxirane, wherein the crude oxirane is formed in an oxirane synthesis by reacting ~~reaction of~~ a hydroperoxide with an organic compound to form the crude oxirane, the process comprising separating the ~~wherein the crude oxirane by distilling is separated~~ in a dividing wall column into low-, intermediate- and high-boiling fractions, and taking off ~~[[the]] purified oxirane is taken off as the intermediate boiler fraction at~~ ~~[[the]] a side offtake,~~ wherein the dividng wall column is configured as thermally coupled columns.

Claim 12 (Cancelled).

Claim 13 (Previously Presented): The process as claimed in claim 11, wherein the dividing wall column has from 30 to 120 theoretical plates.

Claim 14 (Previously Presented): The process as claimed in claim 11, wherein the distillation is carried out at a temperature from 35 to 110°C and a pressure from 1 to 10 bar, with the temperature being measured at the side offtake and the pressure being measured at the top of the column.

Claim 15 (Currently Amended): The process as claimed in claim 11, wherein no impurity is present in the purified oxirane in a concentration of above 0.1% by weight, or the sum of all impurities is not greater than 0.1% by weight.

Claim 16 (Currently Amended): The process as claimed in claim 11, wherein the crude oxirane is prepared by a process comprising at least the steps (i) to (iii):

(i) ~~reaction of~~ reacting the hydroperoxide with the organic compound to give a product mixture comprising the reacted organic compound and unreacted hydroperoxide,

(ii) ~~separation of~~ separating [[the]] unreacted hydroperoxide from the mixture resulting from step (i), and

(iii) ~~reaction of~~ reacting the hydroperoxide which has been separated off in step (ii) with the organic compound.

Claim 17 (Previously Presented): The process as claimed in claim 16, wherein an isothermal fixed-bed reactor is used in step (i), an adiabatic fixed-bed reactor is used in step (iii) and a separation apparatus is used in step (ii).

Claim 18 (Currently Amended): The process as claimed in claim 11, wherein the hydroperoxide [[used,]] is hydrogen peroxide, and the organic compound ~~used~~, is propylene, and the reaction occurs over a heterogeneous catalyst to form propylene oxide as oxirane.

Claim 19 (Currently Amended): The process as claimed in claim 18, wherein the heterogeneous catalyst ~~[[used]]~~ is ~~the zeolite~~ a titanium-containing silicalite TS-1.

Claim 20 (Currently Amended): A continuously operated process for the purification by ~~distillation~~ distilling ~~[[of an]]~~ a crude oxirane formed in an oxirane synthesis by reacting ~~reaction of~~ a hydroperoxide with an organic compound, the process comprising

separating ~~wherein~~ the crude oxirane ~~is separated~~ by distilling in a dividing wall column into low-, intermediate- and high-boiling fractions, and

taking off ~~[[the]]~~ purified oxirane ~~is taken off~~ as the intermediate boiler fraction at ~~[[the]]~~ a side offtake,

wherein the dividing wall column has from 30 to 120 theoretical plates, ~~[[and]]~~

wherein the distillation is carried out at a temperature from 35 to 110°C and a pressure from 1 to 10 bar, with the temperature being measured at the side offtake and the pressure being measured at the top of the column,

and wherein the dividing wall column is configured as thermally coupled columns.

Claim 21 (Currently Amended): The process as claimed in claim 20, wherein no impurity is present in the purified oxirane in a concentration of above 0.1% by weight, or the sum of all impurities is not greater than 0.1% by weight.

Claim 22 (Cancelled).

Claim 23 (Currently Amended): The process as claimed in claim 20, wherein the crude oxirane is prepared by a process comprising at least the steps (i) to (iii):

- (i) ~~reaction of~~ reacting the hydroperoxide with the organic compound to give a product mixture comprising the reacted organic compound and unreacted hydroperoxide,
- (ii) ~~separation of~~ separating the unreacted hydroperoxide from the mixture resulting from step (i), and
- (iii) ~~reaction of~~ reacting the hydroperoxide which has been separated off in step (ii) with the organic compound,

wherein an isothermal fixed-bed reactor is used in step (i), an adiabatic fixed-bed reactor is used in step (iii) and a separation apparatus is used in step (ii), and

wherein the hydroperoxide ~~[[used,]]~~ is hydrogen peroxide,

wherein ~~[[and]]~~ the organic compound ~~[[used,]]~~ is propylene,

wherein ~~[[and]]~~ the reaction occurs over a heterogeneous catalyst to form propylene oxide as oxirane, and

wherein the heterogeneous catalyst ~~[[used,]]~~ is ~~[[the]]~~ a zeolite titanium containing silicalite TS-1.

Claim 24 (Currently Amended): The process as claimed in claim 23, wherein no impurity is present in the purified oxirane in a concentration of above 0.1% by weight, or the sum of all impurities is not greater than 0.1% by weight.

Claims 25 -26 (Cancelled).

Claim 27 (Currently Amended): An apparatus for carrying out a continuously operated process for the purification by distilling ~~distillation of~~ an oxirane formed in an oxirane synthesis by ~~reaction~~ reacting [[of]] a hydroperoxide with an organic compound, ~~which comprises~~ the apparatus comprising

at least one isothermal reactor and one adiabatic reactor as well as a separation apparatus for preparing the crude oxirane, as defined in claim 17, and a dividing wall column for purifying the crude oxirane by distillation,

wherein the isothermal reactor is used in step (i), the adiabatic reactor is used in step (iii), and the separation apparatus is used in step (ii), and

wherein the dividing wall column is configured as thermally coupled columns.

Claim 28 (Previously Presented): The apparatus as claimed in claim 27, wherein the dividing wall column has from 30 to 120 theoretical plates.

Claim 29 (Cancelled).